

Notice of Allowability

Application No.

10/805,119

Examiner

Boris Benenson

Applicant(s)

XU ET AL.

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/30/2006.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

Detailed Actions

1. Amendment received on 6/30/2006 is entered.
 - a. Replacement sheet of drawings is entered and approved.
Objection to the Drawings is withdrawn.
 - b. Claims 1, 2, 5, 12, 15, and 16 are amended.
 - c. Claims 1-20 are pending in the Application.

Response to the arguments

2. Applicants explained term "fifth region" of original Claims 18-19 as a p-type region (Fig. 4, Pos. 390) that disclosed and discussed in the Specification. Objection to the Specification is withdrawn.
3. Applicants argue the APA does not disclose such limitations of amended Claims 1 and 12 as "a first region of said first type formed in said base region" and "a second region of said first type formed in said first region". The argument is convincing. Rejections of Claims with reference to applicants acknowledged prior art (APA) are withdrawn.

Allowable Subject Matter

4. Claims 1-20 are allowed.

The following is an examiner's statement of reasons for allowance:

5. Independent Claim 1 is allowable because none of the prior art of record disclose an electrostatic discharge protection device (ESD) comprising a transistor having a base region of a first type and a zener diode wherein the base region of the transistor comprises a first region of the first type formed in the base region and a second region of the first type formed in the first region and the first region configured to redistribute current away from a surface of the base region to increase a peak current handled by the ESD device in combination with the other claim limitations.

6. Independent Claim 12 is allowable because none of the prior art of record disclose a method for protecting from an electrostatic discharge comprising a step of enabling a transistor to dissipate the ESD wherein an impact ionization current is distributed uniformly through a base region via a first region formed in the base region to prevent current crowding at a surface of the base region wherein the first region having a doping concentration greater than doping concentration of the base region and having a second region formed in the first region when the second region having a

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doping concentration greater than doping concentration of the first region in combination with the other claim limitations.

7. Independent Claim 15 is allowable because none of the prior art of record disclose an electrostatic discharge protection device (ESD) comprising a base region of a first type, a first region of the first type formed in the base region adjacent to an emitter region and a second region of the first type formed in the first region, wherein the first region has a depth greater than 30% of a depth of the base region in combination with the other claim limitations.

8. Claims 2-11, 13-14, and 16-20 are dependent on allowable Claims and therefore allowable.

Comments to reasons for allowance


9. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Boris Benenson whose telephone number is (571) 272-2048. The examiner can normally be reached on M-F (8:20-6:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272-2800 ext 36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



BRIAN SIRCUS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2836

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